

## **SOLID PHASE MICROEXTRACTION: QUO VADIS?**

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The talk will cover sampling/sample preparation devices developed in my laboratories which facilitate practice of “Green” analytical chemistry. Focus of the presentation will be on recent developments of new morphologies of extracting materials and novel sampling configurations as well as approaches compatible with high throughput lab and/or on-site determinations. The recent development of matrix compatible Solid Phase Microextraction (SPME) coatings lead to interesting features experienced during extraction, some of them not anticipated. They are not limited to elimination of fouling and saturation effects during direct extraction of complex samples, but also balance coverage property, enabling “via free form” clean extraction of small molecules widely varying in physical properties leading to some interesting applications. For example, on-site sampling, in-vivo metabolomics, and rapid screening via direct coupling of sample preparation to mass spectrometry were facilitated by this development. Food, pharmaceutical, clinical and medical application of this chemical biopsy tool for in-vivo monitoring and rapid diagnosis will be emphasized.

Reyes-Garceś, N., Gionfriddo, E., Gómez-Ríos, G., Alam, N., Boyaci, E., Bojko, B., Singh, V., Grandy and Pawliszyn J. *Advances in Solid Phase Microextraction and Perspective on Future Directions Anal. Chem.* 2018 90, 302-360.